AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. (Original) An optical fiber connector cleaner comprising:

a housing;

a cleaning tape winding means and cleaning tape delivery means arranged inside the housing;

a cleaning means having a bar-like cleaning section projecting outwardly from the housing, on the front-end of the cleaning section the cleaning tape delivered from the delivery means being movably mounted under tension in an exposed state, the front-end of the cleaning section being brought into contact with the end surface of an optical fiber connector to thereby clean the end surface;

a cleaning section rotating means coaxially connected to the cleaning section in the housing and rotatably supported with respect to the housing; and

a transmission means which rotates the winding means and the cleaning section rotating means substantially simultaneously in a predetermined direction through a predetermined angle and then reverses the cleaning section rotating means to its original position.

2. (Previously presented) An optical fiber connector cleaner comprising:

a housing;

a cleaning tape winding means and cleaning tape delivery means arranged inside the housing;

a cleaning means having a bar-like cleaning section projecting outwardly from the housing, on the front-end of the cleaning section the cleaning tape delivered from the delivery

means being movably mounted under tension in an exposed state, the front-end of the cleaning section being brought into contact with the end surface of an optical fiber connector to thereby clean the end surface;

a cleaning section rotating means coaxially connected to the cleaning section in the housing and rotatably supported in relation to the housing;

a cleaning tape guide means coaxially connected to the cleaning section and rotatably supported in relation to the housing: and

a transmission means which rotates the winding means and the cleaning section rotating means substantially simultaneously in respective predetermined directions through respective predetermined angles and then reverses the cleaning section rotating means to its original position.

3. (Previously presented) The optical fiber connector cleaner according to claim 1, wherein the transmission means rotates the winding means, the delivery means and the cleaning tape rotating means substantially simultaneously.

4. (Previously presented) The optical fiber connector cleaner according to claim 1, wherein the cleaning section includes a hollow bar-like member and a smooth member arranged at the end of the bar-like member.

5. (Previously presented) The optical fiber connector cleaner according to claim 1, wherein the cleaning section includes a hollow bar-like member and a roller rotatably mounted at the end of that bar-like member.

6. (Previously presented) The optical fiber connector cleaner according to claim 4, wherein the main part of the cleaning section is a solid bar-like member.

7. (Previously presented) The optical fiber connector cleaner according to claim 1, wherein the cleaning tape is cloth that has been subject to a fuzz prevention process.

8. (Previously presented) The optical fiber connector cleaner according to claim 1, wherein the cleaning tape is a woven cloth that has been subject to a fuzz prevention process.

9. (Previously presented) The optical fiber connector cleaner according to claim 1, wherein the transmission means includes an arm that rises and lowers in vertical direction, and the transmission means is configured such that due to the downward movement of the arm the winding means is rotated to a first angle in a first direction while simultaneously the cleaning section rotating means is rotated to a second angle in a second direction, moreover due to the upward movement of the arm the cleaning part rotating means is rotated to the second angle in the opposite direction to the second direction.

10. (Previously presented) The optical fiber connector cleaner according to claim 1, wherein the transmission means includes an arm that rises and lowers in vertical direction, and the transmission means is configured such that due to the downward movement of the arm the winding means is rotated to a first angle in a first direction while the cleaning section rotating means is rotated to a second angle in a second direction and simultaneously therewith, the delivery means is rotated in response to the rotation of the winding means,

moreover due to the upward movement of the arm the cleaning part rotating means is rotated to the second angle in the opposite direction to the second direction.

11. (Previously presented) The optical fiber connector cleaner according to claim 9, wherein the arm of the transmission means has a plurality of notches formed along the longitudinal direction thereof, the cleaning section rotating means has a plurality of protrusions disposed on the external peripheral surface thereof, and when the arm descends the protrusions of the cleaning section rotating means are pushed down in succession by the notches on the arm and the cleaning part rotating means rotates at a determined angle in a determined direction, while when the arm ascends the protrusions of the cleaning section rotating means are pushed up in succession by the notches on the arm and the cleaning section rotating means rotates at a determined angle opposite to that determined direction.

12. (Previously presented) The optical fiber connector cleaner according to claim 9, wherein the arm of the transmission means includes a rack having a plurality of notched grooves, the cleaning part rotating means includes a pinion having a plurality of teeth that engage with the rack, and the cleaning section rotating means rotates in a determined direction or in a direction opposite thereto in response to the ascent or decent of the arm.

13. (Withdrawn) A method for cleaning the end surface of a ferrule of an optical fiber connector comprising the steps of:

bringing the surface of a cleaning tape into contact with the end surface of a ferrule of an optical fiber connector;

moving the cleaning tape a uniform distance only, in the longitudinal direction thereof; and

rotating the cleaning tape over the connecting surface of the optical fiber connector while the cleaning tape is moving.

14. (Withdrawn) A method for cleaning the end surface of a ferrule of an optical fiber connector comprising the steps of:

inserting into an optical fiber connector, the end of a cleaning section on which a cleaning tape is movably mounted under tension;

bringing the cleaning tape at the end of the cleaning section into contact with the end surface of a ferrule of the optical fiber connector; and

rotating as well as moving the cleaning tape while the cleaning tape is brought into contact with the end surface of the ferrule.

15. (Previously presented) An optical fiber connector cleaner comprising:

a housing of a size that can be held in one hand;

a bar-like cleaning section disposed at the end of the housing and having an axis of extension;

a winding means and a delivery means arranged inside the housing;

a cleaning tape that is wound up by the winding means after being delivered from the delivery means and being wound around the end of the cleaning section;

a cleaning section rotating means that rotates the cleaning section a determined amount about the axis of extension; and

a manual operating part that drives the cleaning section rotating means simultaneously with driving the winding means,

wherein the cleaning section includes a bar-like inner guide member around ~~the~~ side surfaces and an end section of which the cleaning tape is arranged, and an outer side guide member that encompasses the inner guide member and the cleaning tape with the end of the inner guide member exposed, the inner guide member and the outer guide member are biased to the direction of the end of the housing, independent of each other.

16. (Original) The optical fiber connector cleaner according to claim 15, wherein the cleaning section is supported at the base by a shaft disposed in the housing, and can rotate about the shaft at a determined angle in relation to the housing.

17. (Previously presented) The optical fiber connector cleaner according to claim 15, wherein the optical fiber connector cleaner has a cover that can be attached to and removed from the cleaning section, the cover includes a tubular part having an insertion hole that can accommodate the insertion of a terminal of the male side of a connector.

18. (Original) The optical fiber connector cleaner according to claim 17, wherein the cover includes a cap that covers the insertion hole.

19. (Previously presented) An optical fiber connector cleaner for cleaning the end surface of a ferrule of an optical fiber connector comprising:

a housing;

a cleaning section disposed at one end of the housing, said cleaning section including a inner guide member rotatably supported in the housing about the axis of extension of the inner guide member, a cleaning tape being supported at the end of the inner guide member in

an exposed state so as to be capable of movement in the lengthwise direction of a cleaning tape;

a movable operating part disposed in the housing;

a cleaning section rotation drive means that is connected to the inner guide member and the operating part and rotates the inner guide member about the axis of extension in response to movement of the operating part; and

a winding means that is connected to the operating part, that winds the cleaning tape in response to movement of the operating part and that advances the cleaning tape at the end of the inner guide member.

20. (Previously presented) The optical fiber connector cleaner according to claim 19, wherein the cleaning section rotating drive means rotates the inner guide member in the forward direction of the rotation of the axis of extension in response to a first movement of the operating part and rotates the inner guide member in the backward direction returning the inner guide member to their original position in response to a second movement of the operating part,

wherein the winding means has a winding part rotatably supported in the housing that winds the cleaning tape, this winding part rotating in a predetermined direction to wind the cleaning tape in response to either the first or the second movement of the operating part, advancing the cleaning tape at the end of the inner guide member.

21. (Previously presented) The optical fiber connector cleaner according to claim 19, wherein the cleaning section rotating drive means includes a pinion disposed at the base

of the inner guide member and a rack that engages with the pinion, disposed on the operating part.

22. (Previously presented) The optical fiber connector cleaner according to claim 19, wherein the winding means includes:

a winding part rotatably supported on a shaft disposed in the housing, that winds the cleaning tape,

a first rotation drive plate and a second rotation drive plate rotatably supported on the shaft, arranged along the axis of extension of the shaft on the respective sides of the winding part,

a first ratchet mechanism disposed between the winding part and the first rotation drive plate, and

a second ratchet mechanism disposed between the winding part and the second rotation drive plate,

wherein the first and second ratchet mechanisms convey to the winding part only a rotation in a first rotational direction turning around that shaft.

23. (Original) The optical fiber connector cleaner according to claim 22, wherein the winding means includes a movable member that moves in response to movement of the operating part, the movable member including a first rack that engages a first pinion disposed on the first rotation drive plate and a second rack that engages a second pinion disposed on the second rotation drive plate,

the first and second racks operating in response to movement of the operating part, to engage the first and second pinions respectively so as to rotate the first and second rotation drive plates in mutually opposite directions.

24. (Previously presented) The optical fiber connector cleaner according to claim 21, wherein the cleaning section rotation drive means includes a spring connecting the pinion and the inner guide member respectively.

25. (Previously presented) The optical fiber connector cleaner according to claim 19, wherein the cleaning section includes:

a guide sleeve respectively that supports the inner guide member, the guide sleeve being rotatably supported in the housing so as to change the angle of the axis of extension in relation to the longitudinal axis of the housing.

26. (Previously presented) The optical fiber connector cleaner according to claim 19, wherein the cleaning section includes:

a tubular guide sleeve rotatably supported in the housing; and

a tubular external guide member supported so as to be capable of sliding along the axis of extension along the inner side surface of the guide sleeve and that accommodates the inner guide member and the cleaning tape such that the inner guide member and the cleaning tape are capable of sliding along the axis of extension,

the inner guide member is connected to the cleaning section rotation drive means via a connecting member thereby enabling it to receive rotational driving force from the cleaning section rotation drive means, and

the external guide member has an engaging part capable of engaging with a stepped part formed in the guide sleeve and is biased in the direction toward the end of the inner guide members along the axis of extension by spring disposed between the external guide member and the inner guide member such that the stepped part and the engaging part engage together.

27. (Currently amended) The optical fiber connector cleaner according to claim 19, wherein the cleaning section includes:

a tubular guide sleeve rotatably supported in the housing;

a tubular external guide member supported so as to be capable of sliding along the axis of extension in the inner side surface of the guide sleeve and that accommodates the inner guide member and the cleaning tape such that the inner guide member and the cleaning tape are capable of sliding along the axis of extension; and

a rotary joint supported at the base of the guide sleeve so as to be capable of rotating about the axis of extension, that engages the base of the inner guide member such that the rotation joint and the inner guide member can not move relatively to each other in the circular direction in relation to that axis of extension and can slide along that axis of extension,

the rotation joint means is connected to the cleaning section rotation drive means via a connecting member so as to receive rotational driving force from the cleaning section rotation drive means,

the inner guide member has a flange capable of engaging with an engaging part disposed in the guide sleeve, and is biased in the direction towards the end of the inner guide member along the axis of extension by a spring disposed between the inner guide member flange and the rotation joint such that the ~~bar-like member~~ inner guide member flange engages with the engaging part, and

the external guide member has a flange capable of engaging with the stepped part formed in the guide sleeve, and is biased in the direction towards the end of the inner guide member along the axis of extension by a spring disposed between the external guide member flange and the engaging part of the guide sleeve such that the external guide member flange engages with the stepped part.

28. (Original) The optical fiber connector cleaner according to claim 19, wherein the housing has a long slender form.

29. (Previously presented) The optical fiber connector cleaner according to claim 19, wherein the cleaning section rotation drive means is mechanically connected to the inner guide member and the operating part, and

the winding means is mechanically connected to the operating part.